

11. (new)

The polynucleotide of claim 10 wherein said polynucleotide comprises 60% sequence similarity to SEQ ID NO:1.

A1

12. (new)

A polynucleotide comprising a DNA sequence encoding a polypeptide selected from the group consisting of SEQ ID NO:2; SEQ ID NO:3; SEQ ID NO:4; SEQ ID NO:5, SEQ ID NO:6 and SEQ ID NO:7, and/or conservatively modified variants thereof.

13. (new)

A polynucleotide which encodes an expansin polypeptide which will restore endogenous cell wall extension activity of heat inactivated cell walls and which will hybridize to a polynucleotide of SEQ ID NO:1 under moderate to high stringency conditions.

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14. (new)

A method of identifying a nucleotide sequence which encodes upon expression an expansin protein comprising:
obtaining an oligonucleotide of contiguous basis from SEQ ID NO:1;
using said oligonucleotide to identify similar nucleotide sequences through a hybridization, PCR, or computer algorithm based assay of sequences suspected to encode a protein with expansin activity, and thereafter
assaying the protein encoded by said identified sequence for expansin activity.

15. (new)

The fragment of claim 14 wherein said fragment is a PCR primer.

16. (new)

The fragment of claim 14 wherein said fragment is a hybridization probe.

17. (new)

A nucleotide sequence which encodes upon expression a protein with expansin activity and sequence identified by the method of claim 14.

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18. (new)

A method of identifying a nucleotide sequence which encodes upon expression an expansin protein comprising:

obtaining an oligonucleotide fragment of contiguous bases which encode contiguous amino acids from SEQ ID NOS:2-6 or their conservatively modified variants; using said fragment to identify similar nucleotide sequences through a hybridization or PCR based assay; and thereafter assaying the protein encoded by said sequence for expansin activity.

AI 19. (new)

A nucleotide sequence identified by the method of claim 18.

Supp 20. (new)

A method of identifying a nucleotide sequence which encodes upon expression an expansin protein comprising:
designing a primer to amplify expansin encoding DNA based upon the amino SEQUENCE ID NO:2;
amplifying a cDNA fragment from said primer,
screening a cDNA library to identify a full length,
coding sequence of an expansin protein.

21. (New)

A nucleotide sequence which encodes upon expression a protein with expansin activity, said sequence identified by the method of claim 20.
